

JS Project

Presentation

SW1 - Week 10

FEATURING

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The Brief - Browser Game

“Create a browser game based on an existing card or dice game. Model and test the game logic and then display it in the browser for a user to interact with.

Write your own MVP with some specific goals to be achieved based on the game you choose to model.

You might use persistence to keep track of the state of the game or track scores/wins. Other extended features will depend on the game you choose.”

Aims & Expectations

- To gain experience working in a team with other developers - to understand some of the challenges this creates and ways to overcome them
- To have the opportunity to use Agile working methods
- To become more confident using Git/GitHub for a multi-person project
- To consolidate learning from the JavaScript and React modules
- To investigate some JavaScript libraries you haven't used before (learning how to read docs is an invaluable skill)
- To create a project using React and a backend server. If you have any questions about additional tools ask an instructor.

- All members of the group contributing to the planning, development and presentation of the project
- Members supporting each other to make sure everyone can get the most they can from the week
- TDD - appropriate testing using the methodologies covered so far.
- Consideration of UX
- Some application of Agile concepts e.g. a morning standup, sprints, a kanban board (Trello)
- Regular Git commits and use of (properly structured) branches with frequent merges. We are looking to see at least 100 commits!
- Some testing with Jest
- Use Reach Router for routes
- ~~A mobile first responsive design (don't skimp on the CSS!)~~

Squad Goals

- Make a working game
- Consolidate learnings from React and JS modules
- Be flexible within team
- Be able to apply learnings to different roles
- Practice Github stuff
- Work in agile manner
- Learn stuff
- Have fun

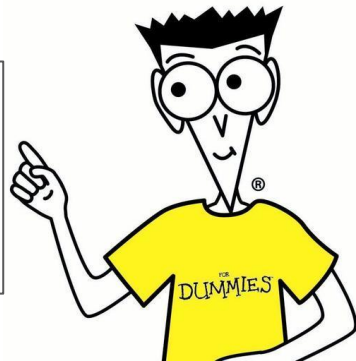
Considerations & Decision

Before you begin coding, it's important to spend some time considering the user of your product. Doing this at the beginning, can help guide which features you decide to implement and how you implement them.

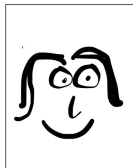
- What user needs is your product going to answer? Can you document them?
- Why would your users want to use your product over something similar that they've seen elsewhere?
- How could you make sure that your web app uses interface solutions that users are familiar with so that it is intuitive to use?
- What is the user journey — how will users interact with your product, and how many steps will be necessary to complete their goals?

Colin says:

"Don't do Monopoly!"



User Experience



Name Laila
Nurse
Introvert

Behaviours
Likes board games
Works long and irregi

User Experience:

- Proto Personae x 2
- User Needs
- User Journey
- Mapping need for product? It's Monopoly!

Demographics

Age: 50
From: Birmingham
Married with four children
Earns 32k p/a

Needs and goals
Wants to spend time with family and friends
Wants to get away from electronics

User journey

Your name Laila Date 22/02/2019



User action	User action	User action	User action
1 User navigates to page. User does not regularly use computers but is comfortable with the rules of Monopoly	2 User takes time to understand layout of page and decides to create a new game	3 Laila knows she has to roll the dice as the first player. "Roll Dice" button clicked.	4 Laila lands on 'property' square
System response	System response	System response	System response
App renders data on user splash screen. Prompt for player names. New players created, new board rendered.	'New game' clicked, name of player 1 (Laila) and player 2 (Jo) entered on screen and stored as constants within game file	Function called to roll dice. Token is moved a specified number of squares on board depending on value of dice roll	System evaluates if property is owned by any player. If property is not owned, player has option to purchase. If property is owned by opponent, current player has to 'pay' specified credits to opponent.
User action	User action	User action	User action
5 Laila purchases 'property' square	6 Laila finishes her turn and passes device to her daughter. Jo clicks roll and lands on property square which is owned by Laila.	7 Laila rolls again and lands on chance where she is told to go to jail. Do not pass go. Do not collect \$200.	8 Laila and Jo complete turns until game is concluded. Game is completed when either player runs out of credits.



Name Jason
Firefighter
Frequents the pub

Behaviours
Likes board games
Works long hours

Needs

Needs

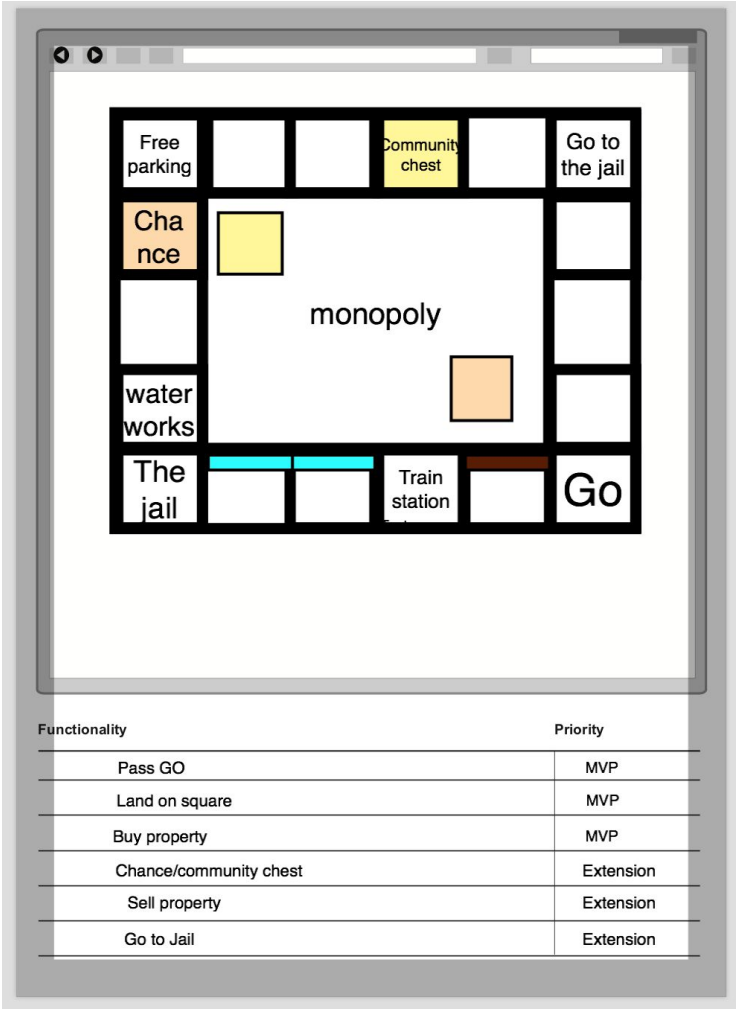
Wants to spend time with family and friends
Wants to get away from electronics
Wants to enjoy his free time when he has some

User needs Jason

As a...	I want to...	So that...
Individual who works long hours	Do what I like when I have spare time	I can have something to look forward to when I work
Single guy	Meet new people	I can find a partner
Person who likes board games	Find ways of playing board games electronically	I can play my game without needing equipment
Guy who enjoys board games	Create a community of gamers	Meet people like me and do things I like with them

Design

Wireframe sketched



Setting Up

MVP & extensions agreed

Created Github repo and organised access. Agreed working practices

Created communal Kanban

Sketch objects

Consider rules - are we building a carbon copy of Monopoly or interpreting it?

Flesh out game logic

API

MVP:

- Board of properties
- Retrieve properties from backend
- Player movement around board by dice roll
- Ability to buy and sell properties & lose/gain money

Extensions:

- Check 'set'
- Buy houses & increase rent
- Jail functionality
- Sell properties to either bank or other player
- Chance/community chest

Extended extensions:

- Mortgaging
- Houses - even spread
- More than 2 players
- Sell properties to other players
- Auctioning

The Demo

MONOPOLY

The Code

Front End

8 Components

- CardDisplay, DiceNumbers, DiceRoll, MonopolyList, PlayerProperty, PlayerPropertyList, Property, Winner.

Container

- MonopolyBox

3 Routes

- Home, Game, Rules

SO Many Tests

Main.test.js (etc..)

Back End

server.js

createRouter with Get request

seed_data - all property information

Mongodb running - Monopoly database -> properties collection

MoSCoW

Must

- * MVP
- * Extensions

Should

- * Be able to accept player names

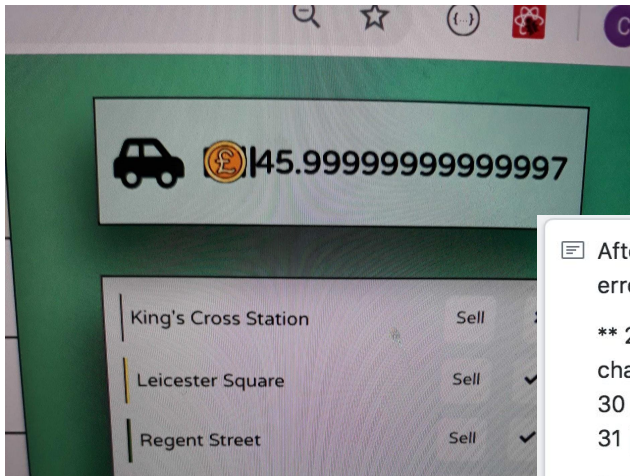
Could

- <- have appropriately structured state

Would like

- * Auctioning
- * Houses - even spread on owned properties
- * More than 2 players
- * Sell properties to other players

Bugs!



BUG - income tax Pay
reappears at the start
next turn before they roll the dice.

Added by chrishontoir

BUG - need to disable End Turn button ...
when you land on a Chance card
without carrying out the deed.

Added by chrishontoir

After chance - next roll produced this
error - fixed by CH

```
** 29 | const randomCard =  
chanceCards[randomNumber];  
30 | console.log(randomCard);  
31 | var chanceDescription =
```

description}

ceButton = Continue

ertyData.owner ===

") &&

status === "start")){ **

Added by jjardine85

BUG - when player lands on an unowned
property, he can buy and sell it to himself
as often as he likes. is this cool?

Added by jjardine85

BUG - If a player lands on Income Tax ...
with a double roll, the roll again button
is enabled without forcing the player to
pay rent

Added by chrishontoir

BUG - when you're sent to jail there's ...
an immediate option to roll or pay \$50 -
is this cool?

Added by jjardine85

Thanks!

- ★ Morag for arranging MR 3
- ★ Keith & Colin for bug fixes
- ★ Team: For making the project a tonne of fun